

## IN THE CLAIMS

Please replace any previous listing of the claims with the following replacement listing of the claims:

### Replacement Listing of the Claims

1. (Currently amended) A decoding power aware encoding method for generating a predictively encoded data stream, in which predictions, that result in a reduction in the amount of data transferred from ~~the~~ a secondary memory to a primary memory during ~~the~~ a decoding process, are favored, said method for favoring certain predictions comprising:
  - (a) a model for transfer of data from said secondary memory to said primary memory in the decoding process;
  - (b) a scheme for weighting ~~the~~ relative merits of favoring a certain prediction and the associated loss in compression gain, and
  - (c) based on said weighting scheme, choosing a particular one of the predictions from the candidates allowed by the compression scheme.
2. (Currently amended) A power aware decompression method for decoding a predictively encoded data stream, comprising:
  - (a) generating a first selection signal which signals whether the data to be used for a prediction process resides in a primary memory in part or in whole;

(b) if the first selection signal indicates that a portion of the said prediction data or the whole of the said prediction data is not present in said primary memory:

i. generating a second selection signal, based on an estimate of the ~~future~~ needs of the prediction process, to signal that portion of ~~the said~~ primary memory where said ~~the~~ prediction data, which is not already present in said primary memory, should reside, and

ii. transferring said prediction data that is not already present in primary memory, from a secondary memory to that portion of ~~the said~~ primary memory indicated by the second selection signal, and

(c) generating a prediction signal to be used in ~~the~~ a process of decompression by manipulating data residing in said primary memory.

3. (Original) A method for decoding a coded data stream comprising:

(a) processing the coded data stream to produce outputted decoded data frames;

(b) transmitting signals to and receiving signals from an external memory for storage of previously decoded reference data frames, and

(c) transmitting signals to and receiving signals from a primary memory for storage and retrieval of data frames being decoded currently.

4. (Currently amended) A system for decoding a coded data stream comprising:

- (a) a processor for outputting ~~the~~ decoded data frames;
- (b) an external memory;
- (c) an internal primary memory having high speed access relative to the external memory's access speed, and
- (d) a memory management scheme for decreasing ~~the~~ an amount of traffic to the external memory so as to provide better real-time performance and power saving by a connection arrangement for transmission from ~~the~~ said processor to ~~the~~ said external and internal memories.

5. (Currently amended) A system as defined in claim 4, wherein said internal primary memory is dedicated to ~~the~~ a motion compensation function of data decoding.

6. (Currently amended) A system as defined in claim 4, wherein ~~the~~ said processor receives the data stream at its input, and has an output respectively connected to ~~the~~ said external and internal memories and a further output providing decoded data frames.

7. (Currently amended) A system for decoding a coded data stream comprising:

- (a) a processor for outputting decoded data frames;
- (b) motion compensation means having a memory for storing a reference data frame as well as a data frame being decoded currently;
- (c) an external memory;

(d) an internal primary memory having high speed access relative to the external memory, and

(e) wherein said internal primary memory is dedicated to ~~the~~ a motion compensation function of decoding.

8. (Currently amended) A system for encoding an input bit frame comprising:

(a) a motion estimator for receiving ~~an~~ said input frame and for searching to find the best match between said ~~an~~ input frame and an area in a reference frame;

(b) a primary memory model coupled to the motion estimator;

(c) a motion vector selector coupled to the output of the motion estimator;

(d) a memory for storing data reference frames, and

(e) a quality and rate controller coupled to the motion vector selector.

9. (Currently amended) A system for encoding a data frame as defined in claim 8, further comprising a motion vectors module for determining the motion vectors based on ~~the~~ a current block and ~~the~~ a best matched candidate.

10. (Currently amended) A computer readable medium encoded with computer executable instructions for controlling the processing of a system that decodes a coded data stream, said set of computer executable instructions ~~A program memory medium for controlling a system that decodes a coded data stream, the memory medium comprising the steps of:~~

- (a) controlling ~~the~~ a processing of a coded data stream to produce outputted data frames;
- (b) controlling ~~the~~ a transmittal ~~transmitting~~ of signals to, and a reception ~~of receiving~~ signals from, a high speed primary memory for storage and retrieval of data frames being decoded currently;
- (c) controlling ~~the~~ a transmittal ~~transmitting~~ to, and a reception ~~of receiving~~ signals from, an external ~~secondary~~ memory, and
- (d) controlling ~~the~~ an amount of traffic to the external memory.